Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) An isolated RNA comprising an intron RNA that is released in a cell, thereby modulating the function of a target gene, wherein the isolated RNA does not contain a combination of a splice donor site that includes 5'-GU(A/G)AGU-3' and a splice acceptor site that includes 5'-CU(A/G)A(C/U)NG-3'.
2. (Currently amended) The isolated RNA of claim 1, wherein the isolated RNA contains a splice donor site that includes 5'-GUA(A/-)GAG(G/U)-3', a splice acceptor site that includes 5'-G(A/U/-)(U/G)(C/G)C(U/C)(G/A)CAG-3' (SEQ ID NO: 1), a branch site that includes 5'-UACU(A/U)A(C/U)(-/C)-3', a poly-pyrimidine tract that includes 5'-$(U(C/U))_{1-3}(C/-)U_{7-12}C(C/-)$-3' (SEQ ID NO: 2) or 5'-$(UC)_{7-12}$NCUAG(G/-)-3' (SEQ ID NO: 3), or a combination thereof.
3. (Previously presented) The isolated RNA of claim 2, wherein the cell is a mammalian cell.
4. (Currently amended) The isolated RNA of claim 2, wherein the splice donor site is 5'-AGGUAAGAGGAU-3 (SEQ ID NO: 4)', 5'-AGGUAAGAGU-3' (SEQ ID NO: 5), 5'-AGGUAGAGU-3', or 5'-AGGUAAGU-3'.
5. (Currently amended) The isolated RNA of claim 2, wherein the splice acceptor site is 5'-GAUAUCCUGCAGG-3' (SEQ ID NO: 6), 5'-GGCUGCAGG-3', or 5'-CCACAGC-3'.
6. (Previously presented) The isolated RNA of claim 2, wherein the branch site is 5'-UACUAAC-3' or 5'-UACUUAUC-3'.

7. (Previously presented) An isolated RNA comprising an intron RNA that is released in a mammalian cell, thereby modulating the function of a target gene, wherein the isolated RNA does not contain a combination of a splice donor site that includes 5'-GU(A/G)AGU-3' and a splice acceptor site that includes 5'-CU(A/G)A(C/U)NG-3'.

8. (Currently amended) An isolated RNA comprising an intron RNA that is released in a mammalian cell, thereby modulating the function of a target gene, wherein the isolated RNA contains a splice donor site that includes 5'-GUA(A/-)GAG(G/U)-3', a splice acceptor site that includes 5'-G(A/U/-)(U/G)(C/G)C(U/C)(G/A)CAG-3' (SEQ ID NO: 1), a branch site that includes 5'-UACU(A/U)A(C/U)(-/C)-3', a poly-pyrimidine tract that includes 5'-$(U(C/U))_{1-3}(C/-)U_{7-12}C(C/-)$-3' (SEQ ID NO: 2) or 5'-$(UC)_{7-12}$NCUAG(G/-)-3' (SEQ ID NO: 3), or a combination thereof.

9. (Previously presented) A DNA template for the isolated RNA of claim 1.

10. (Previously presented) An expression vector comprising the DNA of claim 9.

11. (Previously presented) A cultivated cell comprising the isolated RNA of claim 1.

12. (Previously presented) A cultivated cell comprising the DNA of claim 9.

13. (Previously presented) An animal comprising the isolated RNA of claim 1.

14. (Previously presented) The animal of claim 13, wherein the animal is a mammal.

15. (Previously presented) The animal of claim 14, wherein the animal is a mouse.

16. (Previously presented) An animal comprising the DNA of claim 9.

17. (Previously presented) The animal of claim 16, wherein the animal is a mammal.

18. (Previously presented) The animal of claim 17, wherein the animal is a mouse.

19. (Previously presented) A composition comprising the isolated RNA of claim 1.

20. (Previously presented) A composition comprising the DNA of claim 9.

21. (Previously presented) A method of producing an intron RNA, comprising cultivating the cell of claim 11 to allow release of the intron RNA.

22. (Previously presented) A method of producing an intron RNA, comprising cultivating the cell of claim 12 to allow expression and release of the intron RNA.

23. (Previously presented) A method of modulating the function of a target gene in a cell, comprising introducing into a cell an effective amount of the isolated RNA of claim 1, wherein the intron RNA is released in the cell, thereby modulating the function of a target gene.

24. (Previously presented) A method of modulating the function of a target gene in a cell, comprising introducing into a cell an effective amount of the DNA of claim 9, wherein the intron RNA is expressed and released in the cell, thereby modulating the function of a target gene.

25. (Previously presented) A composition comprising a chemokine and an isolated RNA, wherein the isolated RNA has an intron RNA that is released in a cell, thereby modulating the function of a target gene, and the isolated RNA does not contain a combination of a splice donor site that includes 5'-GU(A/G)AGU-3' and a splice acceptor site that includes 5'-CU(A/G)A(C/U)NG-3'.

26. (Previously presented) The composition of claim 25, wherein the cell is a mammalian cell.

27. (Previously presented) The composition of claim 26, wherein the chemokine is interleukin-2.

28. (Previously presented) The composition of claim 25, wherein the cell is infected by a virus.

29. (Previously presented) The composition of claim 28, wherein the cell is infected by HIV-1.

30. (Previously presented) The composition of claim 29, wherein the chemokine is interleukin-2 and the intron RNA modulates the function of an HIV-1 genomic sequence.

31. (Previously presented) A method of modulating the function of a target gene in a cell, comprising administering into a cell an effective amount of the composition of claim 25.

32. (Previously presented) A composition comprising a chemokine and a DNA template for an isolated RNA, wherein the isolated RNA has an intron RNA that is released in a cell, thereby modulating the function of a target gene, and the isolated RNA does not contain a combination of a splice donor site that includes 5'-GU(A/G)AGU-3' and a splice acceptor site that includes 5'-CU(A/G)A(C/U)NG-3'.

33. (Previously presented) The composition of claim 32, wherein the cell is a mammalian cell.

34. (Previously presented) The composition of claim 33, wherein the chemokine is interleukin-2.

35. (Previously presented) The composition of claim 32, wherein the cell is infected by a virus.

36. (Previously presented) The composition of claim 35, wherein the cell is infected by HIV-1.

37. (Previously presented) The composition of claim 36, wherein the chemokine is interleukin-2 and the intron RNA modulates the function of an HIV-1 genomic sequence.

38. (Previously presented) A method of modulating the function of a target gene in a cell, comprising administering into a cell an effective amount of the composition of claim 32.

39. (Previously presented) A composition comprising one or more agents that induce RNA-mediated modulation of the functions of two or more target genes in a cell.

40. (Previously presented) The composition of claim 39, wherein the cell is a mammalian cell.

41. (Previously presented) The composition of claim 39, wherein the cell is infected by a virus.

42. (Previously presented) The composition of claim 41, wherein the cell is infected by HIV-1.

43. (Previously presented) The composition of claim 42, wherein the target genes are selected from the group consisting of HIV-1 genes and cellular genes.

44. (Previously presented) The composition of claim 43, wherein the cellular genes include Naf1b, Nb2HP, and Tax1BP.

45. (Previously presented) The composition of claim 44, wherein the one or more agents include one or more DNA-RNA hybrids.

46. (Previously presented) The composition of claim 44, wherein the one or more agents include one or more exogenous intron RNAs.

47. (Previously presented) A composition comprising one or more agents that induce RNA-mediated modulation of the functions of two or more target genes in a mammalian cell.

48. (Previously presented) A composition comprising one or more agents that induce RNA-mediated modulation of the functions of two or more target genes in a cell, wherein the one or more agents include one or more DNA-RNA hybrids.

49. (Previously presented) A composition comprising one or more agents that induce RNA-mediated modulation of the functions of two or more target genes

in a cell, wherein the one or more agents include one or more exogenous intron RNAs.

50. (Previously presented) A method of modulating the functions of genes in a cell, comprising administering into a cell an effective amount of the composition of claim 39.

51. (Previously presented) The method of claim 50, wherein the cell is a mammalian cell.

52. (Previously presented) The method of claim 50, wherein the cell is infected by a virus.

53. (Previously presented) The method of claim 52, wherein the cell is infected by HIV-1.

54. (Previously presented) The method of claim 53, wherein the target genes are selected from the group consisting of HIV-1 genes and cellular genes.

55. (Previously presented) The method of claim 54, wherein the cellular genes include Naf1b, Nb2HP, and Tax1BP.

56. (Previously presented) The method of claim 55, wherein the one or more agents include one or more DNA-RNA hybrids.

57. (Previously presented) The method of claim 55, wherein the one or more agents include one or more exogenous intron RNAs.